

REMARKS

By this reply, Claims 11, 29-33, 35, 37-41, 43 and 44 have been amended. Claims 11-14 and 29-44 are pending in the application. Support for the amendments to Claims 11, 32, 33, 35, 40 and 43, which recite that the free-carbon is in graphite form, can be found at paragraphs [0023] and [0024] of the specification, for example. Support for the amendments to Claims 29, 30, 37, 38 and 44 can be found, for example, at paragraphs [0030], [0031], [0038] and [0044] of the specification. Applicant submits that the amendments do not raise any new issue; do not add new matter; and place the application in better condition for appeal by simplifying issues. Thus, the amendments should be entered. Favorable consideration of this application is respectfully requested.

Rejection Under 35 U.S.C. § 112, ¶1

Claims 29-31, 37-39 and 44 stand rejected under 35 U.S.C. § 112, ¶1, for the reasons stated at section (6) of the Official Action.

Regarding Claims 29, 37 and 44, the Official Action asserts that the specification does not describe whether the silicon carbide component is new or used. Applicant respectfully disagrees. Firstly, there is no *in haec verba* requirement that newly added claim limitations must be supported in the specification through "express, implicit, or inherent disclosure." See M.P.E.P. § 2163(B). Secondly, paragraphs [0029], [0030], [0031] and [0033] read in conjunction with paragraph [0044] of the specification clearly describe that the silicon carbide components can be treated in an oxygen-containing vessel, or subjected to treatment with a chemical solution, and then installed in a plasma processing

chamber. The components that are treated can be new components, i.e., components that have been produced by a graphite conversion process and then exposed to mechanical treatment, which exposes the interior free-carbon in graphite form. Thus, the new components can be treated outside of the plasma processing chamber.

To expedite prosecution, however, Claims 29, 37 and 44 have been amended to recite the features of "the silicon carbide component has been treated and has not been installed in the semiconductor substrate processing apparatus." See paragraph [0044] of the specification.

Also to expedite prosecution, Claims 30 and 38 have been amended to recite the features of "the silicon carbide component has been treated in an oxygen-containing atmosphere in a treatment vessel and has not been installed in the semiconductor substrate processing apparatus." Claims 31 and 39 have been amended to recite a semiconductor substrate processing apparatus comprising the silicon carbide component.

Applicant submits that Claims 29-31, 37-39 and 44 comply with the provisions of 35 U.S.C. § 112, ¶1. Therefore, withdrawal of the rejection is respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 11-14, 32, 33, 35, 36, 40, 41 and 43 stand rejected under 35 U.S.C. § 102(b) over Wicker et al. (U.S. Patent No. 6,464,843) ("Wicker"). The reasons for the rejection are set forth at pages 2 to 3 of the Official Action. The rejection is respectfully traversed.

Initially, as stated in M.P.E.P. § 2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

Claim 11, as amended, recites a silicon carbide component for a semiconductor substrate processing apparatus. The silicon carbide component is porous and comprises an interior and an exposed surface, the silicon carbide component having been (i) made by a **graphite conversion process** that results in the silicon carbide component including free-carbon **in graphite form** in the interior; (ii) treated to produce an exposed surface having the free-carbon in graphite form therein; and (iii) **treated to remove the free-carbon such that at least the exposed surface is substantially free of the free-carbon**. The silicon carbide component is selected from the group consisting of a baffle plate, a plasma confinement ring and an edge ring.

The silicon carbide component recited in Claim 11 has been made by a graphite conversion process that results in the silicon carbide component including free-carbon in graphite form in the interior. During the graphite conversion process, the graphite is not completely converted to SiC and, as a result, graphite is present in the interior of the silicon carbide component in the form of particles or clusters. See paragraphs [0023] and [0024] of the specification. The graphite is distinct from the silicon carbide matrix material. As also recited in Claim 11, the silicon carbide component has been treated to produce an exposed surface having the free-carbon in graphite form therein. For example, the component can be treated by being mechanically ground or polished to produce the exposed surface, which can expose

the free-carbon on the exposed surface. See paragraph [0024] of the specification. The graphite on the exposed surface of the component is undesirable because it can be a source of particles ("adders") when the component is installed in a plasma processing chamber and exposed to plasma during processing of production semiconductor substrates. As recited in Claim 11, the silicon carbide component has been treated to remove the free-carbon such that at least the exposed surface is substantially free of the free-carbon. Applicant submits that the silicon carbide component recited in Claim 11 is patentable. Claims 12-14, 32 and 33, which depend from Claim 11, are also patentable for at least the same reasons as those stated with respect to Claim 11.

Independent Claim 35 recites a silicon carbide component for a semiconductor substrate processing apparatus. The silicon carbide component comprises an interior and an exposed surface, **the interior containing free-carbon in graphite form and the exposed surface being substantially free of the free-carbon**. The silicon carbide component recited in Claim 35 is also patentable. Claims 36, 40 and 41, which depend from Claim 35, are also patentable for at least the same reasons as those stated with respect to Claim 35.

Independent Claim 43 recites a silicon carbide baffle plate of a semiconductor substrate processing apparatus. The baffle plate comprises an interior and a machined exposed surface, **the interior containing free-carbon particles or clusters in graphite form and the exposed surface being substantially free of the free-carbon**. The silicon carbide component recited in Claim 43 is also patentable.

Therefore, withdrawal of the rejection is respectfully requested.

Rejection Under 35 U.S.C. § 103

Claims 29-31, 34, 37-39, 42 and 44 stand rejected under 35 U.S.C. § 103(a) over Wicker. The reasons for the rejection are set forth at page 4 of the Official Action. The rejection is respectfully traversed.

Claims 29-31 and 34, which depend from Claim 11, are also patentable for at least the same reasons as those stated with respect to Claim 11.

Claims 37-39 and 42, which depend from Claim 35, are also patentable for at least the same reasons as those stated with respect to Claim 35.

Lastly, Claim 44 depends from Claim 43 and is also patentable for at least the same reasons as those stated with respect to Claim 43.

Therefore, withdrawal of the rejection is respectfully requested.

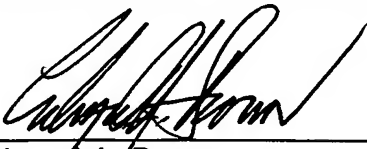
Conclusion

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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